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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/559,415	04/26/2000	Mirosław Z. Bober	0054-0205P-SP	1497

7590 07/15/2004

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EXAMINER

TO, BAOQUOC N

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/559,415	Applicant(s) BOBER, MIROSLAW Z.	
	Examiner Baoquoc N To	Art Unit 2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06/23/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-10 and 33-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-10 and 33-41 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 06/23/04 for a Request for Continued Examination (RCE) under 37 CFR 1.53(d) based on parent Application No. 09/559415 is acceptable and an RCE has been established. An action on the RCE follows.

2. Claims 1-5 and 11-32 are canceled, claims 36-41 are newly added and claims 6 and 33 are amended in the RCE filed on 06/23/04. Claims 6-10 and 33-41 are pending in this application.

Response to Arguments

3. Applicant's arguments with respect to claims 6 and 33 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6-10 and 33-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaithilingam et al. (US. Patent No. 6,411,724).

Regarding on claim 6, Vaithilingam teaches a method of searching for an object in still or video image by processing signals corresponding to the images, the method comprising:

Providing a plurality of stored image representations of three-dimensional objects, each image representation being associated with an object descriptor (descriptor extracted from still images typically are vectors of multidimensional numbers representing a collection of point in space) (col. 6, lines 12-29);

Each object descriptor including a plurality view descriptors, each view descriptor a representation of one of the three-dimensional objects from a different perspective view of the three-dimensional object (shape in three-dimensional) (col. 9, lines 40-45);

Inputting a query in the form of at least a two-dimensional outline of an object (query-by-example is the two dimensional outline of the object for example shape) (col. 9, lines 1-5);

Deriving a query object descriptor of the query object (col. 9, lines 1-5);

Comparing said query object descriptor with at least one of said object descriptors (compare and selected before retrieval of images) (col. 4, lines 20-30);

Selecting and displaying at least one result corresponding to one of the image representations containing an object for which comparison between the associated object descriptor and the query object descriptor indicates a degree of similarity between the query object and said object (descriptors for the feature or features are extracted from the query multimedia information and compared with descriptors extracted from the repository multimedia information to obtain similarity measures,

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which are used to selected one or more "matching" items of multimedia information" (col. 4, lines 15-21).

Vaithilingam does not explicitly teach the view descriptors are the outlines of the different perspective views of three dimensional of object. However, Vaithilingam suggests "the descriptors for the feature or features are extracted and stored for an image in the repository for retrieval purposes" (col. 4, lines 15-29). In addition, Vaithilingam also suggests "descriptors extracted from still images typically are vectors of multidimensional numbers representing a collection of point in space" (col. 6, lines 12-14). Further more, Vaithilingam also suggests "a meta descriptor generation process is performed using all of the features, illustratively color, shape, texture, and sketch –step 112-114 of FIG. 2. (col. 9, lines 40-45). This suggests that the extracted shapes are the view descriptors in the multidimensional (3D) wherein stored in the repository for the fast retrieval processes. Therefore, it would have been obvious to one ordinary skill in art a the time of the invention was made to modify the extracted shapes in the multidimensional space as taught by Vaithilingam which are the view descriptors for a differently perspective views as recited in the claim limitation in order to provide a faster search and retrieval system.

Regarding on claim 7, Vaithilingam a query is input in the form of two or more two-dimensional outlines of an object, and wherein a query view descriptor is derived for each said outline, and wherein the step of comparing comprises comparing each said

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query view descriptor with each view descriptor in each stored object descriptor to derive a plurality of view similarity values (col. 9, lines 29-65).

Regarding on claim 8, Vaithilingam teaches the view-similarity values are analyzed to derive object similarity values (col. 6, lines 20-25).

Regarding on claim 9, Vaithilingam teaches at least some of the object descriptor include view-independent descriptors which are related to shape/or size of the object, and wherein the method comprises inputting a view-independent query value and the step of comparing compares the query value with the view-independent descriptors for the stored object descriptor (col. 9, lines 29-65).

Regarding on claim 10, Vaithilingam teaches the query descriptor is derived using a curvature scale space representation of the query object outline (col. 6, lines 13-15).

Claim 33 is rejected under the same reason as claim 6, the different between of the two claims is, selecting the three-dimensional object and associated images representation when of the respective stored object descriptor matches the query descriptor. As previously explanation of the rejection of claim 6, the extracted shape features are used to retrieve images when the user requests. In addition to the shapes

are not the only image representation sketches are also the images representation (col. 9, lines 30-64).

Regarding on claim 34, Vaithilingam teaches the query descriptor is derived using a curvature scale space representation of an outline of the query object (col. 6, lines 13-15).

Regarding on claim 35, Vaithilingam teaches the stored descriptor is derived using a curvature scale space representation of an outline of the three-dimensional object (col. 6, lines 13-15).

Regarding on claim 36, Vaithilingam teaches deriving an object descriptor for an object in an image by:

Deriving a view descriptor of a first outline of a three-dimensional object in the image (col. 4, lines 15-22),

Deriving at least one additional view descriptor of the outline of the object in a different perspective from the perspective view of the image (features) (col. 4, lines 15-22), and

Associating the two more view descriptor to form the object descriptor (col. 4, lines 15-22).

Regarding on claim 37, Vaithilingam teaches selecting and displaying includes selecting and displaying an image representation of an object having a different view

from perspective view of said query object based on said query object matching with at least two view descriptors including a view descriptor not representing perspective view of the object in the image representation (col. 9, lines 29-65).

Regarding on claim 38, Vaithilingam teaches one of the view descriptors corresponds to a view of the object as the object appears in the respective image representation (col. 9, lines 29-65).

Regarding on claim 39, Vaithilingam teaches one of the view descriptors corresponds to a perspective view of the object different from the perspective view of the object as the object appears in the respective image (col. 9, lines 29-65).

Regarding on claim 40, Vaithilingam teaches selecting include selecting and displaying an image representation including an object having a different perspective view from perspective view of said query object based on said query object matching with at least two view descriptors including a view descriptor not representing view of the object in the image (col. 9, lines 29-35).

Regarding on claim 41, Vaithilingam teaches each said view descriptor is a different representation of the object from a different perspective view of the three-dimensional object (col. 9, lines 29-35).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mehrotra et al. (US. Patent No. 6,115,717) Patent date: 09/05/2000

Nasar et al. (US. Patent No. 5,144,685) Patent date: 09/01/1992

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is (703) 305-1949 or via e-mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached at (703) 305-9790.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231.

The fax numbers for the organization where this application or proceeding is assigned are as follow:

(703) 872-9306 [Official Communication]

Hand-delivered responses should be brought to:

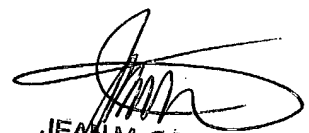
Crystal Park II

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Baoquoc N. To
July 10, 2004



JEAN M. CORRIELUS
PRIMARY EXAMINER